Attachment 1
Marked up version of the claims
showing the changes made

IN THE CLAIMS

Please amend the claims as follows:

1. (Amended) A process for removing elemental mercury from a gaseous stream comprising:

a) contacting a vaporized oxidizing agent with the gaseous stream for a time and at a temperature sufficient to form water soluble nitrogen and mercury-containing compounds, wherein the oxidizing agent comprises chloric acid and an alkaline metal chlorate; and

b) removing the water soluble compounds from the gas stream.

2. Claim 2 has been deleted.

4. Claim 4 has been deleted.

5. Claim 5 has been deleted.

6. Claim 6 has been deleted.

7. (Amended) A method for simultaneously removing elemental mercury and NOx from a flue gas stream containing other constituents, the method comprising:

a) vaporizing an aqueous solution containing an oxidizing agent, wherein the oxidizing agent is present in the aqueous solution at a concentration of between 0.001 and 5 weight percent; and

b) contacting the vaporized oxidizing agent with the gaseous stream for a time and at a temperature sufficient to form water-soluble nitrogen- and mercury containing compounds; and

c) removing the water-soluble compounds.

10. Claim 10 has been deleted.

12. Claim 12 has been deleted.

13. Claim 13 has been deleted.

14. (Amended) A method to simultaneously remove mercury and nitric oxide from flue gas, the method comprising:

a) vaporizing an oxidizing agent;

b) contacting the vaporized oxidizing agent with the flue gas for a time and at a temperature sufficient to create water soluble [fractions of the] mercury and nitrogen-containing compounds [nitric oxide]; and

c) [isolating the fractions from the flue gas] removing the water soluble compounds from the gas stream, wherein the water soluble compounds are removed using aqueous scrubbers employing alkaline moieties.

15. (Amended) A method as recited in claim 14 wherein the oxidizing agent contains halogen compounds selected from the group consisting of chloric acid, chlorine dioxide, [molecular chlorine] sodium chlorate, sodium hypochlorite, bromic acid, iodic acid, and combinations thereof.

17. Claim 17 is deleted.

20. (New) A method to simultaneously remove mercury and nitric oxide from flue gas, the method comrpising:

a) contacting a vaporized oxidizing agent with the gaseous stream for a time and at a temperature sufficient to form water soluble nitrogen and mercury-containing compounds, wherein the oxidizing agent is selecting from the group consisting of an alkali metal hydroxide, and alkaline earth metal hydroxide, an alkali metal carbonate, an alkaline earth metal carbonate and mixtures thereof; and

b) removing the water soluble compounds from the gas stream.

21. (New) A method as recited in amended claim 1, wherein the presence of SOx improves removal of Hg.

22. (New) A method as recited in amended claim 1, wherein the oxidizing agent converts NO to water soluble NO_2.

23. (New) A method as recited in amended claim 7, wherein the oxidizing agent is selected from the group consisting of chloric acid, chlorine dioxide, and chloric acid and an alkali metal chlorate.

24. (New) A method as recited in amended claim 7, wherein the oxidizing agent is selected from the group consisting of chloric acid, chlorine dioxide, sodium chlorate, sodium chlorite, sodium hypochlorite, bromic acid, iodic acid; and combinations thereof.

25. (New) A method as recited in amended claim 14, wherein the oxidizing agent is chlorine dioxide.

26. (New) A method as recited in amended claim 14, wherein the oxidizing agent is chloric acid.

27. (New) A method as recited in amended claim 14, wherein vaporization of the oxidizing agent is accomplished by passing it through a heat exchanger, the heat exchanger being at a temperature between 400 and 500˚F.

28. (New) A method as recited in amended claim 14, wherein the vaporized oxidizing agent contacts that gaseous stream in a counter current direction.

29. (New) A method as recited in amended claim 14, wherein the alkaline moieties are selected from the group consisting of NaOH, $Mg(OH)_2$, $Ca(OH)_2$, $NaCO_3$, K_2CO_3, $MgCO_3$, $CaCO_3$ and combinations thereof.

30. (New) A process for removing elemental mercury from a gaseous stream comprising:

a) contacting a vaporized oxidizing agent with the gaseous stream for a time and a temperature sufficient to form water soluble nitrogen and mercury-containing compounds, wherein the oxidizing agent is selected from the group consisting of: chloric acid, chloric acid and an alkaline metal chlorate, and chlorine dioxide; and

b) removing the water soluble compounds from the gas stream.